STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0130401
Owner:	City of Independence
Address:	111 East Maple, Independence, MO 64051-0519
Continuing Authority:	City of Independence
Address:	111 East Maple, Independence, MO 64051-0519
Facility Name:	Independence Municipal Separate Storm Sewer System
Facility Address:	Independence, MO 64051-0519

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

In compliance with the provisions of the Clean Water Act, 33 USC 1251 *et seq.*, as amended by the Water Quality Act of 1987, PL 100-4, the "Act", the City of Independence, MO, (hereinafter referred to as "The City" or "Permittee") is authorized to discharge from all portions of the City of Independence Municipal Separate Storm Sewer System ("MS4"), to the waters of the State in accordance with the approved Storm Water Management Program (SWMP), monitoring requirements, and other provisions set forth in Parts I, II, III, IV, V, VI, VII, VIII and IX herein.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

August 20, 2004
Effective Date

Stephen M. Mahfood, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

August 19, 2009
Expiration Date

Jim Hull, Director of Staff, Clean Water Commission

PART I. DISCHARGE AUTHORIZED UNDER THIS PERMIT

A. Permit Area. This permit covers all areas located within the corporate boundary of the City of Independence, MO that are served by a municipal separate storm sewer system (MS4) owned or operated by the permittee.

B. Authorized Discharges. This permit authorizes all existing or new storm water point source discharges to waters of the State from the permittee's MS4. This permit also authorizes the discharge of storm water commingled with flows contributed by process wastewater, non-process wastewater, and storm water associated with industrial activity, provided the discharges are regulated by other NPDES permits or are discharges which are not significant sources of pollutants as described under Part I.B.1.

1. The following non-storm water discharges are authorized by this permit, provided they are not identified by the permittee or MO DNR as contributing significant amounts of pollutants to waters of the State of Missouri.

   a. water line flushing
   b. landscape irrigation
   c. uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))
   d. discharges from potable water sources
   e. foundation drains
   f. air conditioning condensate
   g. springs
   h. water from crawl space pumps
   i. footing drains
   j. lawn watering
   k. non-commercial car washing
   l. natural flows from riparian habitats and wetlands
   m. street wash waters
   n. fire fighting activities
   o. diverted stream flows
   p. rising groundwaters
   q. uncontaminated pumped groundwater
   r. irrigation water
   s. dechlorinated swimming pool discharges

2. ***Limitations on Coverage.*** The following discharges, whether discharged separately or commingled with municipal storm water, are not covered by this permit:

   a. *Non-storm Water*: Discharges of non-storm water from water contaminant point sources located within the City of Independence, MO, that are subject to Operating Permit requirements under 10 CSR 20-6.010(5) must be authorized under separate State Operating Permit. This permit does not transfer responsibility for compliance with any separate State Operating Permit to the City.
   b. *Storm Water Discharge Associated with Industrial Activity*: Storm water discharge associated with industrial activity or construction activity that is subject to storm water permitting requirements under 10 CSR 20-6.200(2) must be authorized under a separate storm water State Operating Permit. This permit does not transfer responsibility to the City for compliance with any separate State Operating Permit for storm water discharge associated with industrial activity or land disturbance activity.

c. *Spills*: discharges of material resulting from a spill. This permit does not transfer liability for a spill from the party(ies)responsible for the spill to the permittee nor relieve the party(ies) responsible for a spill from applicable federal, state, and local requirements.

C. Permittee Responsibilities

The permittee is responsible for:

1. Compliance with permit conditions relating to discharges from portions of the Municipal Separate Storm Sewer System where the permittee is the operator;
2. Storm Water Management Program implementation on portions of the Municipal Separate Storm Sewer System where the permittee is the operator;
3. Collection of representative wet weather monitoring data required by Part VI.A., according to such agreements as may be established between the permittee and other entities.
4. Compliance with annual reporting requirements on Storm Water Management Program activities conducted by the permittee as specified in Part.VI.C.

PART II. STORM WATER MANAGEMENT PROGRAM

The City of Independence, MO shall implement a Storm Water Management Program (SWMP) including controls necessary to effectively prohibit non-storm water discharges into municipal separate storm sewers and reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable (MEP). The SWMP shall be implemented in accordance with Section 402(p)(3)(B) of the Clean Water Act, the federal Storm Water Regulations (40 CFR Part 122.26), and the state storm water regulations (10 CSR 20-6.200).

The SWMP shall cover the term of the permit and shall be updated as necessary to ensure compliance with the statutory requirements of Section 402(p)(3)(B) of the Act. Modifications to the SWMP shall be made in accordance with Parts III.G. and VIII.C. Compliance with the SWMP and any schedules in Part III shall be deemed compliance with Parts III.A. and III.B. The SWMP, and all updates made in accordance with Part III.G., are hereby incorporated by reference.

Implementation of the SWMP may be achieved through participation with public agencies or private entities in cooperative efforts to satisfy the requirements of Part III. The SWMP, taken as a whole, shall achieve the "effective prohibition of the discharge of non-storm water" and "MEP" standards from Section 402(p)(3)(B) of the Act.

PART III. SWMP REQUIREMENTS

A. SWMP Requirements

SWMP requirements consist of the following:

1. ***Program to Control Post-Construction Discharge from Areas of New Development and Significant Redevelopment.*** The permittee shall implement a program to reduce the discharge of pollutants to the MS4 from areas of new development or areas of significant redevelopment after construction is completed by:

a. Including water quality considerations in land use planning, site plan review and approval, and subdivision approval. Specifically, the permittee shall include as part of the SWMP, project review and approval procedures for new development and significant development. The program shall include:

   i. Procedures for incorporating and addressing post-construction storm water quality concerns as part of the permitting process for new development and significant redevelopment, including detailed procedures for inter-departmental review and conditioning to ensure appropriate BMPs are incorporated into approved design plans.
   ii. A description of review standards and a description of the site development review process to be used to educate both internal staff and external project proponents.
   iii. Minimum design criteria for structural BMPs.

b. Operation and maintenance of post-construction BMPs, including regional detention basins. The permittee shall implement a maintenance program for the storm water regional detention basins that are owned or operated by the permittee.
c. Reporting requirements. The permittee shall demonstrate compliance with the requirements for post-construction controls for new development and redevelopment by providing a summary of implementation activities in their Annual Report.

2. ***Program to Control Discharge from Roadways.*** The permittee shall operate City-owned public streets, roads, and highways in a manner to reduce the impacts on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities, by describing and implementing programs to:

   a. store and cover deicing chemicals to minimize the discharge of deicing salts to the MS4.
   b. effectively sweep City streets while considering water quality and watershed goals and objectives.
   c. maintain storm sewers through the routine cleaning of catch basins on a schedule necessary to reduce the discharge of excess materials during storm events.

3. ***Program to Utilize Flood Control Projects as Water Quality Treatment.*** The permittee shall describe and implement procedures to assure that major flood control projects are assessed for impacts on the water quality of receiving water bodies, by:

   a. using assessment procedures to evaluate new flood control projects proposed in the City for potential impacts to water quality.
   b. describing results of the process implemented to evaluate retrofitting existing major flood control devices for pollution control.

4. ***Program to Control Pollutants in Runoff from Municipal Waste Management Facilities that are not Permitted by a Separate Permit.***
   Municipal landfills and treatment, storage or disposal facilities (TSDs) for municipal waste will be permitted by a separate permit. No active municipal waste landfills are located in the City of Independence, and the City does not operate a residential or commercial trash collection service.

5. ***Program to Control Pollutants from Industrial and Other High Risk Runoff Areas that are not Permitted by a Separate Permit.*** The permittee shall implement a program to monitor and control pollutants in storm water discharges to the MS4 from hazardous waste treatment, disposal and recovery facilities; industrial facilities that are subject to SARA Title III Section 313 and other industrial or commercial facilities that the permittee determines are contributing or have the potential to contribute a substantial pollutant loading to the MS4, by:

   a. creating an inventory of industrial and other high risk dischargers to the MS4 that are not permitted by a separate Missouri State Operating Permit. These facilities could include:

      i. Hazardous waste treatment, disposal and recovery facilities;
      ii. Industries subject to reporting requirements pursuant to SARA Title III Section 313; and
      iii. Other non-permitted industrial and commercial facilities that the permittee determines are a high risk for contributing pollutants to the MS4.

   b. establishing a priority list of facilities based on existing or potential pollutant loading.
   c. developing an inspection or self-auditing program to assess these facilities. This inspection program can be combined with other existing inspection programs (i.e., pretreatment) where applicable.
   d. developing an industrial and other high-risk runoff source monitoring action plan for monitoring runoff from the priority facilities identified pursuant to Part III.A.5.b.
   e. Alternative Certification: In lieu of monitoring, the permittee may accept a certification from a facility that raw and waste materials, final and intermediate products, by-products, material handling equipment or activities, industrial machinery or operations, or significant materials from past industrial activity are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Where the permittee accepts a "no exposure" certification, the permittee shall conduct at least one site inspection of the facility every five years to verify the facility's "no exposure" exemption.

6. ***Program to Reduce the Discharge of Pesticides, Herbicides, and Fertilizers (PHF).*** The permittee shall implement a program to reduce to the MEP, pollutants in discharges from the MS4 that are associated with PHFs, by:

   a. continuing the City's public education program to promote the proper use, handling, storage, and disposal of PHFs.
   b. implementing BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of PHFs on city-owned property and right-of-ways.

7. ***Program to Reduce Illicit Discharges, Spills, and Improper Disposal.*** The permittee shall implement a program to prohibit non-storm water discharges to the MS4.

a. An existing city ordinance prohibits illicit discharges to the MS4 except for certain listed de minimis discharges. The city will continue its procedures for investigation of illicit discharges and enforcement to remove such discharges.
b. The permittee shall implement a field screening program for illicit discharges. In year 1, the permittee shall identify priority areas for illicit discharge screening, including concentrated areas of industrial and commercial facilities, and shall develop procedures for conducting field screening activities and recording results. The permittee shall submit an updated description of its field screening program in the year 1 Annual Report.
c. In year 2, the permittee shall initiate its field screening program for illicit discharges. Beginning with the year 2 Annual Report, the permittee shall provide a summary of field screening activities conducted during the reporting period and the illicit discharges that were successfully removed from the MS4.
d. The permittee shall continue to implement procedures to investigate when illicit discharges are discovered or reported. The permittee shall investigate reported illicit discharge complaints. The permittee shall maintain a record of the date and time a complaint is received, the complaint type, response actions and dates, and the ultimate resolution of the complaint.
e. The permittee shall continue to implement procedures to prevent, contain and respond to spills that may discharge into the MS4. The permittee shall continue its public education program to inform the public on how to respond to spills, illegal dumping, illicit discharges, and water quality problems, including how to correctly manage and dispose of used oil and toxic household materials. The permittee shall designate a telephone number to be used for all illicit discharge reporting. The permittee shall maintain records of illicit discharge and spill calls. The permittee shall provide staff to answer calls made to the telephone number during normal business hours. During non-business hours, callers should either be directed to emergency response personnel or another party designated by the permittee.
f. The permittee shall continue its sanitary sewer maintenance program to limit infiltration from municipal sanitary sewers to the MS4.

8. ***Program to Reduce Pollutants in Construction Site Runoff.*** The permittee shall implement a program to reduce to the MEP the discharge of pollutants to the MS4 from construction sites disturbing one or more acres, by:

a. continuing to require erosion control for land disturbance activities in accordance with city ordinance, such as "Erosion Control Requirements," Article 16, Chapter 20 of the City Code. The grading ordinance shall require implementation of erosion and sediment control BMPs during all active construction activities.
b. maintaining an inventory of active construction sites. The permittee shall develop and implement an effective system to track grading permits (or their equivalent) and active construction sites. The tracking system shall identify basic site information (e.g., owner, location, contractors, etc.), status (active, on-hold, complete, etc.), size in acres, watershed name, required inspection frequency, project start and anticipated completion dates. The permittee shall update this inventory on a monthly basis and output from the system shall be available to MO DNR upon request.

c. inspecting construction sites. The permittee shall inspect all active construction sites for compliance with the City's grading ordinance (e.g., "Erosion Control Requirements," Article 16, Chapter 20) and grading permits. Inspections shall include a visual review of site erosion and sediment controls for compliance with erosion control plans. Records of inspections shall be retained by the permittee.
d. Providing inspector training and outreach to the construction industry. Each erosion control inspector shall receive adequate training to readily identify non-compliance with the ordinance, applicable plans, or permits and shall be knowledgeable regarding proper erosion and sediment control BMP options, installation, and required maintenance. Inspectors shall use an inspection checklist, or equivalent, to document site conditions, any deficiencies, and corrective actions taken. The permittee shall also facilitate appropriate education and training for construction site operators (as defined in Part IX.B of this permit) to increase awareness of the requirements of the City's grading ordinance (e.g., "Erosion Control Requirements," Article 16, Chapter 20) and this permit. The education and training requirement may be met through a third-party program (e.g., Experior) if the program covers information regarding the City's Erosion Control Requirements and the Construction Site Runoff requirements of this permit.
e. enforcing the permittee's construction site runoff program. The permittee shall enforce its municipal ordinances (e.g., "Erosion Control Requirements," "Municipal Separate Storm Sewer System Regulations") and permits (construction, grading, building) at construction sites as necessary to comply with this permit. The permittee's ordinances or other regulatory mechanisms shall contain sanctions to enforce requirements.

B. Area-specific SWMP Requirements. Reserved.

C. Deadlines for Program Implementation. Except as provided in Part IV., full initial implementation of the Storm Water Management Program shall begin within 90 days from the effective date of the permit.

D. Roles and Responsibilities of Permittee. The City is responsible for implementing the City's Storm Water Management Program in areas located within the corporate boundary of the City that are served by municipal separate storm sewers owned or operated by the City. The City is responsible for Part VI. monitoring requirements and annual reporting on SWMP activities conducted by the City.

E. Legal Authority. The permittee shall ensure legal authority to control discharges to and from the Municipal Separate Storm Sewer System. This legal Authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements with another jurisdiction, with existing legal authority to:

1. Control the contribution of pollutants to the Municipal Separate Storm Sewer System by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;
2. Prohibit illicit discharges to the Municipal Separate Storm Sewer System;
3. Control the discharge of spills and the dumping or disposal of material other than storm water (e.g., industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the Municipal Separate Storm Sewer System;

4. Control through interagency or inter-jurisdictional agreements the contribution of pollutants from one portion of the Municipal Separate Storm Sewer System to another;
5. Require compliance with conditions in ordinances, permits, contract or orders; and
6. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with permit conditions.

F. Storm Water Management Program Resources. As permitted by law and subject to annual appropriations of the governing body, adequate resources shall be provided to implement activities under the Storm Water Management Program. Changes to the SWMP that are necessitated by resource limitations shall be communicated to the Water Protection Program and appropriate updates to the SWMP shall be made in accordance with Part III.G.

G. SWMP Review and Update.

1. *Storm Water Management Program Review*: The permittee shall conduct an annual review of the Storm Water Management Program in conjunction with preparation of the annual report required under Part VI.C.

2. *Storm Water Management Program Update*: Only those portions of the Storm Water Management Program specifically required as permit conditions shall be subject to the modification requirements of Part III.G. The permittee may change the Storm Water Management Program during the life of the permit in accordance with the following procedures:

   a. The approved Storm Water Management Program shall not be changed by the permittee without the approval of the Water Protection Program, unless in accordance with Part III.G.2.b., c., or d.
   b. Changes adding (but not subtracting or replacing) components, controls, or requirements to the Storm Water Management Program may be made by the permittee at any time. Such changes are automatically incorporated into the approved SWMP upon written notification to the Water Protection Program Permits Section.
   c. Changes replacing an ineffective or unfeasible BMP specifically identified in this permit with an alternate BMP may be implemented at any time.
   d. Changes resulting from schedules contained in Part IV are automatically incorporated into the approved Storm Water Management Program.
   e. Change requests or notifications shall be made in writing and signed in accordance with Part VI.D.

3. *Transfer of Ownership, Operational Authority, or Responsibility for Storm Water Management*: Program Implementation: The permittee shall implement the Storm Water Management Program on all areas added to their portion of the municipal separate storm sewer system (or for which they become responsible for implementation of storm water quality controls) as expeditiously as practical, but not later than three years from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for control that cannot be implemented immediately.

H. Retention of SWMP Records. The permittee shall retain the Storm Water Management Program developed in accordance with Parts III. and IV. for at least 3 years after coverage under this five-year permit terminates.

PART IV. SCHEDULES FOR IMPLEMENTATION AND COMPLIANCE

The permittee shall comply with the following schedules for the Storm Water Management Program implementation and augmentation, and permit compliance.

A. Implementation and Augmentation of the SWMP Requirements. The program elements are taken from Part III, Subpart A, of this permit.

	Activity	Date 1st Deliverable Due	Frequency Thereafter
1.	***Program to Control Post-Construction Discharges from Areas of New Development and Significant Redevelopment***		
a.	Submit an updated program description that demonstrates how the City incorporates water quality considerations in land use planning, site plan review and approval, and sub-division approval	Year 2 Annual Report	
b.	Submit an annual summary of implementation activities for post-construction controls for new development and significant redevelopment	Year 2 Annual Report	Annually
c.	Submit an updated description of the City's program to inspect and maintain regional detention basins	Year 1 Annual Report	
d.	Submit a summary of regional detention basin inspection and maintenance activities	Year 2 Annual Report	Annually
2	***Program to Control Discharge from Roadways***		
a.	Submit an annual summary of activities to control discharges from roadways, including roadway maintenance, deicing activities, deicing chemical storage and storm sewer maintenance.	Year 1 Annual Report	Annually
b.	Continue implementation of existing compliant program components (i.e., covered deicing chemical storage, street sweeping and storm sewer maintenance)	Immediately	
3	***Program to Utilize Flood Control Projects as Water Quality Treatment***		
a.	Develop and submit description of the process developed to evaluate water quality improvement aspects of major flood control projects	Year 1 Annual Report	
b.	Submit description of the process implemented to evaluate retrofitting existing major flood control devices for pollution control	Year 1 Annual Report	
4	***Program To Control Pollutants In Runoff From Municipal Waste Management Facilities That Are Not Permitted By A Separate Permit***		
a.	Obtain a separate permit for City-owned landfills and TSDs for municipal waste	(Note 1)	
5	***Program To Control Pollutants From Industrial And High Risk Facilities***		
a.	Update and submit an inventory of industrial and high risk dischargers developed in accordance with Part III.A.5.a.	Year 1 Annual Report	
b.	Develop and submit a priority list of industrial and high risk dischargers	Year 1 Annual Report	
c.	Develop, implement and submit a description of an industrial and high risk facility inspection or self-auditing program	Year 1 Annual Report	

d.	Submit a list of facilities inspected and resulting enforcement activities	Year 2 Annual Report	Annually
e.	Develop and submit an industrial and other high risk runoff source monitoring action plan in accordance with Part III.A.5.c.	Year 2 Annual Report	
f.	Provide a summary of industrial and high risk runoff source monitoring results	Year 4 Annual Report	Annually
6	***Program to Reduce the Discharge of Pesticides, Herbicides and Fertilizers***		
a.	Submit a summary of implementation activities conducted for the City's public education program on PHFs	Year 1 Annual Report	Annually
b.	Submit a summary of implementation activities conducted to minimize the discharge of PHFs from application on municipal property by City staff or contractors.	Year 1 Annual Report	Annually
7	***Program to Reduce Illicit Discharges and Improper Disposal***		
a.	Continue to enforce, or provide education on, existing ordinance(s) that prohibit illicit discharges or connections to the MS4	Immediately	
b.	Submit any revisions to the illicit discharge ordinance	Annual Report following revision	
c.	Continue to implement procedures to investigate illicit discharges and illicit discharge complaints. Provide a summary of implementation activities	Year 1 Annual Report	Annually
d.	Develop and submit an updated description of procedures for conducting field screening activities and identify priority areas for illicit discharge screening	Year 1 Annual Report	
e.	Provide a summary of field screening activities conducted and the illicit discharges that were removed from the MS4	Year 2 Annual Report	Annually
f.	Submit an annual summary of the City's spill response activities	Year 1 Annual Report	Annually
g.	Submit an annual summary of the City's public education and outreach activities to minimize spills, illicit discharges and dumping	Year 1 Annual Report	Annually
h.	Submit an annual summary of the City's sanitary sewer maintenance activities	Year 1 Annual Report	Annually
8	***Program to Reduce Pollutants in Construction Site Runoff***		
a.	Submit any updates to the grading ordinance, erosion control guidance and specifications adopted by the City	Annual Report following revision	
b.	Develop and submit a description of a recordkeeping system to inventory and track active construction sites and maintain records of erosion control inspections and compliance status	Year 1 Annual Report	
c.	Submit an annual summary of the City's construction site erosion control activities	Year 1 Annual Report	Annually
d.	Implement and submit a description of a training program implemented for inspectors and the construction industry	Year 2 Annual Report	

Note 1 – The City does not currently own or operate a landfill or TSD facility. If the City engages in such activity in the future, the first deliverable due date to obtain a separate permit for a City-owned landfill and/or TSD for municipal waste shall be in accordance with applicable requirements of 10 CSR 20-6 Permits.

B. Reporting Compliance with Schedules. In the next Annual Report following a date for a specific action (interim milestone or final deadline) identified in the above schedule(s), the permittee shall submit a written notice of compliance or noncompliance to the Water Protection Program. The permittee shall submit with the scheduled annual reports a written notice of compliance or noncompliance to the Water Protection Program for actions identified above with a due date of "Immediately" and for actions identified above for which a frequency of occurrence is specified (e.g., annually). This section shall supercede the Schedule of Compliance requirements contained in Standard Conditions, Part I.A.2.

PART V. DISCHARGE LIMITATIONS

The permittee shall reduce the discharge of pollutants from the MS4 to the maximum extent practicable in accordance with Section 402(p)(3)(B) of the Clean Water Act.

PART VI. MONITORING AND REPORTING REQUIREMENTS

A. Storm Event Discharges

1. *Representative Monitoring*: The permittee shall conduct a monitoring program for representative data collection for the five year term of the permit to characterize the quality of storm water discharges from the MS4. Monitoring shall be conducted in accordance with the amended monitoring program submitted by the City on April 15, 2004. Alternate representative monitoring locations may be substituted for just cause during the term of the permit. Requests for approval of an alternate monitoring location shall be made to the Water Protection Program in writing and include the rationale for the requested monitoring station relocation. Unless disapproved by the Water Protection Program, use of an alternate monitoring location may commence 30 days from the date of the request.

   a. Monitoring points designated as sample sites for the MS4 permit are as follows:

TABLE VI.A. 1.a.(1)	
MONITORING POINT	LOCATION
#101	Spring Branch near 78 Highway
#102	Crackerneck Creek at Selsa Road
#103	Rock Creek near Kentucky Road
#104	Little Blue River at 78 Highway
#105	Little Blue River at Pink Hill Road

   b. Assessment of MS4 discharges on Receiving Waters. Parameters to be sampled in the first monitoring event conducted under this permit are those constituents listed in Table 1 of the amended monitoring program submitted by the City on April 15, 2004. Water sample analyses may change as additional data are collected in order to enhance the assessment of MS4 discharges.

   c. The storm event monitoring program described in Part VI.A. is in effect only for the five year term of this permit. The permittee may request changes in monitoring locations, parameters to be sampled, and sample frequency during the term of this permit and/or in subsequent MS4 permits.

2. *Storm Event Data*: For Part VI.A.1.a., quantitative data shall be collected to estimate pollutant loadings and event mean concentrations for each parameter sampled. Records shall be maintained of all analytical results, the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event which generated the sampled runoff; the duration (in hours) between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total flow (in cubic feet per second) of the discharge sampled.

3. *Sample Type, Collection, and Analysis*: Analysis and collection of samples shall be done in accordance with methods specified in 40 CFR Part 136 or by United States Geological Survey (USGS) methods. Where an approved Part 136 method or USGS method does not exist, any available method may be used unless a particular method or criteria for method selection (such as sensitivity) has been specified in the permit.

B. Biological Sampling. The permittee shall collect bioassessment data to obtain direct measurements of stream ecosystem conditions. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis. Bioassessment data shall be used to identify long-term trends in the quality and character of stream biotic communities.

1. In year 1, the permittee shall develop a biological sampling action plan. The permittee shall conduct biological assessments of urban stream reach(es) in year three of the permit term pursuant to the biological sampling action plan.

C. Annual Report. The permittee shall prepare and submit an Annual Report no later than six months following the period covered by the report. The report shall cover a fiscal year (July 1 - June 30) and will be due by December 31 each year. The first report may include a "partial" year. The permittee shall sign and certify the Annual Report in accordance with Subpart VI.D of this permit, and shall include a statement or resolution that the permittee's governing body or agency (or delegated representative) has reviewed or has been apprised of the content of the Annual Report. The Annual Report shall include the following:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;
(2) Proposed changes to the storm water management programs that are established as permit conditions;
(3) Evaluation of the effectiveness of the storm water management program in improving water quality, a description of the direct and/or indirect measurements used in the evaluation, and a description of SWMP revisions based on the evaluation;
(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;
(5) Estimated annual expenditures during the reporting period and budget for year following each annual report;
(6) A summary describing the number and nature of enforcement actions, inspections and public education programs; and
(7) Identifications of water quality improvements or degradation.

D. Certification and Signature of Reports. All reports required by the permit and other information requested by the Director shall be signed by:

1. for a municipality, State, or other public agency: either a principal executive officer or ranking elected official; or
2. a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Director.
   b. The authorization specifies an individual or a position have responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be a named individual or any individual occupying a named position.
   c. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new written authorization satisfying the requirements of this paragraph must be submitted to the Director prior to or together with any reports, information, or applications signed by an authorized representative.

3. Certification: Any person signing documents under this section shall make the following certification: AI certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."

E. Reporting: Where and When to Submit.

1. Representative monitoring results (Part VI.A.1) obtained during the reporting period shall be submitted along with the annual report required by Part VI.C.

2. Signed copies of discharge monitoring reports required under Part VI., the Annual Report required by Part VI.C., requests for Storm Water Management Program updates, changes in monitoring locations, other reports required herein or an application for an individual permit shall be submitted to:

   Attn: Permits and Engineering Section
   Water Protection Program
   Missouri Department of Natural Resources
   P.O. Box 176
   Jefferson City, MO 65102

PART VII. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I Standard Conditions dated October 1, 1980, and hereby incorporated as though fully set forth herein.

PART VIII. PERMIT MODIFICATION

A. Modification of the Permit. This permit may be reopened and modified, or alternatively revoked and reissued, in accordance with 10 CSR 20-6.

B. Termination of Coverage for a Single Permittee. NA

C. Modification of SWMPs. Only those portions of the SWMP specifically required as permit conditions shall be subject to the modification requirements of 10 CSR 20-6. The following changes shall be considered minor changes to the SWMP and not modifications to the permit: Changes made by the permittee to add components, controls, or requirements; changes made by the permittee to replace an ineffective or infeasible BMP implementing a required component of the Storm Water Management Program with an alternate BMP expected to achieve the goals of the original BMP; and changes required as a result of schedules contained in Part IV. (See also Part III.G.)

D. Changes in Monitoring Points. Changes in monitoring points will be made in accordance with the procedures in Part VI.A.1.

E. TMDL Implementation. This permit may be reopened and modified to incorporate new or modified Best Management Practices (BMPs) if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state=s water quality standards, also called the 303(d) list. Any permit modification to implement a TMDL shall be conducted in accordance with 10 CSR 20-6.

PART IX. DEFINITIONS

Definitions as set forth in the Missouri Clean Water Law and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 and Storm Water Regulations 10 CSR 20-6.200 shall apply to terms used herein. Unless otherwise specified, additional definitions of words or phrases used in this permit are as follows:

A. CWA or "The Act" means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public. 92-500, as amended Pub.L. 95-217, Pub.L. 95-576, Pub-L. 96-483, and Pub.L. 97-117, 33 USC 1251 et.seq.
B. Construction Site Operator for the purpose of this permit, refers to the party that has operational control over construction plans and specifications or the party that has the day-to-day operational control of those activities at a project which are necessary to ensure compliance with this permit.
C. Discharge for the purpose of this permit, unless indicated otherwise, refers to discharges from the Municipal Separate Storm Sewer System (MS4).
D. MEP is an acronym for Maximum Extent Practicable, the technology-based discharge standard for Municipal Separate Storm Sewer Systems established by CWA '402(p).
E. MS4 is an acronym for Municipal Separate Storm Sewer System and refers to either a Large or Medium Municipal Separate Storm Sewer System.
F. Part "#" refers, unless otherwise indicated, to Part "#" of this permit (e.g., Part V.E.2.).
G. Permittee refers to any person, as defined in 10 CSR 20-2.010, authorized by this NPDES permit to discharge to waters of the state.
H. Storm sewer, unless other wise indicated, refers to a municipal separate storm sewer.

I. Storm Water Management Program refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system.
J. SWMP is an acronym for Storm Water Management Program.
K. Water Protection Program is the office within the Missouri Department of Natural Resources and will serve to review the permittee's compliance and all other aspects regarding this permit.
L. Waters of the State is defined in 10 CSR 20-6.200(1)(C).

City of Independence

Municipal Separate Storm Sewer System (MS4)
Amended Storm Event Monitoring Program
April 15, 2004

This amended MS4 storm event monitoring program is intended to substitute for the proposed monitoring program included in Part 2 of the City of Independence MS4 permit application. This monitoring program is based on a draft proposal submitted to the City by the United States Geological Survey (USGS). Table 1 lists the parameters to be sampled for the MS4 permit.

Section 2 describes a proposed USGS special study consisting of sampling for the common urban wastewater contaminants listed in Table 2, continuous water quality monitoring and microbial source tracking. The USGS special study in Section 2 is not incorporated in the City's MS4 permit storm event monitoring program. The City may, at its discretion, cooperate with USGS to conduct this study. If so, the City will include information obtained from the study in its Annual Reports. Monitoring described in Section 2 may be discontinued at any time at the discretion of the City.

The following information from the USGS proposal explains background information, objectives, and the rationale for monitoring point selection.

"BACKGROUND AND PROBLEM

In 1992 and 1993, the U.S. Geological Survey (USGS), in cooperation with the city of Independence, Missouri undertook and completed a study characterizing water quality of base flow in most Independence streams and storm runoff from 5 small, single-land use, watersheds within the city (Schalk, 1994). The 11-year-old data collected for this study were limited to four storms at five sites and were used by the city of Independence to establish baseline water-quality conditions and helped fulfill requirements for Part II of the National Pollution Discharge Elimination System (NPDES) permit application for storm-water discharges to waters of the state of Missouri [U.S. Environmental Protection Agency (USEPA) 1990, p. 48070]. However, the effects of Independence runoff on the water quality and ecological condition of receiving streams, such as the Little Blue River (fig. 1), have not been assessed. Jackson County has acquired and is developing a corridor of land along the Little Blue River as green space and a public park with a growing trail that is already almost 20 miles long. However, the Little Blue River Watershed is a rapidly developing area and any adverse effects of urban runoff on this stream would greatly devalue the Little Blue Trace Park to the citizens of the County and the City.

Information about the source of contaminants observed in receiving streams is also needed to help design feasible and effective strategies for contaminant reductions…More broadly, a program is needed to comprehensively characterize the water quality and ecological health of streams receiving storm-water discharges and identify sources of contaminants from the municipal separate storm sewer system (MS4). The sampling data from the monitoring program will be used to assess changes and trends in the water quality of base flow and storm-water runoff quality, establish a water quality baseline that can be used to measure the effectiveness of future pollution prevention

measures, and serve as an environmental indicator for the effectiveness of the storm-water management program…

OBJECTIVES

The objectives of this study are to:

1. Characterize the quality of storm-water runoff from specific sources and land uses.

2. Identify and characterize the chemical, physical, and biological water quality impacts of discharges from the municipal separate storm sewer system on receiving streams in Independence, MO.

This program assists in evaluating the effectiveness of the City's storm-water management program (SWMP) (USEPA, 1992, p. 5-20). The data collected in the monitoring program will provide historical background for future permit terms, trends, and tools to be used for future MS4 planning.

APPROACH

Characterization of Urban Runoff Quality and its Effects on Receiving Waters

To assess the impacts of MS4 discharges on receiving waters, monitoring of streamflow, water quality, and bioassessments will be implemented. Monitoring locations will be located near the mouths of Rock Creek, Spring Branch Creek, and Crackerneck Creek, and at two locations along the Little Blue River (fig 1)…The Little Blue River is the primary stream receiving runoff from the Independence MS4. This stream is highly regulated by large reservoirs including: Longview, Blue Springs, Lake Jacomo, and Prairie Lee Lake. Therefore, peak flows have been substantially reduced. The monitored watersheds cover over half of Independence and are representative of the dominantly residential land use the city. Crackerneck and Rock Creek contain a large portion of the commercial land use in the city in similar proportions to the citywide mix. The Spring Branch watershed includes some of the small amount of industrial land use in the city as well as some developing land. The location of the monitoring station for Rock Creek will be established at one of the National Urban Runoff Program (NURP) study sites. The Rock Creek station provides a historical database for identifying trends. A Little Blue River water-quality monitoring station will be established at M-78 highway, at an existing, long-term, USGS streamgaging station downstream from the mouth of Spring Branch Creek. The other Little Blue station will be established at Pink Hill Road upstream from the mouth of Crackerneck Creek and downstream from the mouth of East Fork Little Blue River and Adair Creek."[1]

[1] Blevins, D.W., 2004, *Characterization of the Water Quality in Streams of Independence, Missouri*, draft U.S. Geological Survey proposal.

Section 1 – MS4 Permit Storm Event Monitoring Program

The following information from the USGS proposal explains sampling procedures and frequency. Table 1 lists the parameters to be sampled for the MS4 permit.

"All stormwater samples will be storm composites collected four times per year (seasonally) with automatic samplers. To sample storm-water runoff, the storm generating the runoff must have a total rainfall depth of at least 0.10 inch. This will be the only limiting criteria for selecting storms to sample and analyze storm-water runoff. A single base flow sample will be collected once per year at each site. Synoptic storm-water and base-flow samples from Spring Branch, Crackerneck, and the two Little Blue River sites will be used to compute constituent loads and characterize the effects of urban runoff from Independence on the Little Blue River between Pink Hill Road and Highway 78…Synoptic chemical analyses of water samples collected from Rock Creek, Spring Branch and Crackerneck Creek will be compared to identify areas of the city where BMPs may be the most effective. One ice/snowmelt event will be sampled each year, when possible, at each site to characterize snowmelt runoff and constituent contributions from road deicers.

…The data collected in the monitoring program, including discharge and precipitation data, will supplement data collected in NPDES Part 2 application to verify or improve requirements for characterizing storm-water discharges. Discharge data will be collected at all five sampling stations and precipitation will be collected at least one location in each of the five monitored watersheds. Quantitative data on specific constituents in storm-water runoff will support estimates of annual and seasonal loadings and modeling results for assessing water quality impacts on receiving waters. These loadings will be extrapolated to loadings generated at unsampled and ungaged watersheds in the city.

Table 1.-- Analytes for stormwater and base flow samples.

COD	Fecal coliform	Specific Conductance	Nitrite plus nitrate
BOD5	Fecal Streptococcus or E-coli	Dissolved Solids	Total Kjeldahl nitrogen or Total Nitrogen
Oil and Grease	Suspended sediment	Dissolved Sodium	Ammonia
pH	Total Phosphorus	Dissolved Chloride	Dissolved Phosphorus
Chlorine	Cyanide	Ammonia	Total Aluminum
Total Arsenic	Total Cadmium	Total Chromium	Total Mercury
Total Sodium	Total Copper	Total Lead	Total Lead
Total Zinc	*Chlorophyll a		

*Baseflow samples only"[2]

[2] Blevins, D.W., 2004, *Characterization of the Water Quality in Streams of Independence, Missouri*, draft U.S. Geological Survey proposal. (Tables have been renumbered.)

Section 2 – USGS Special Study

The following information from the USGS draft proposal describes a projected USGS special study consisting of sampling for the common urban wastewater contaminants listed in Table 2, continuous water quality monitoring and microbial source tracking. The USGS special study in Section 2 is not incorporated into the City's MS4 permit storm event monitoring program. Section 2 is included herein for informational purposes only. The City may, at its discretion, cooperate with USGS to conduct this study. If so, the City will include information obtained from the study in its Annual Reports. Monitoring described in Section 2 may be discontinued at any time at the discretion of the City.

Table 2.—"List of common urban waste water contaminants for analysis and their common uses. All constituents are analyzed from total, whole-water samples. {Darkly shaded boxes indicate analyte detections in samples collected by Schalk (1994). Lightly shaded boxes indicate constituent analyzed by Schalk (1994), but no detections were identified].

1,2-dichlorobenzene	Moth repellant, fumigant, deodorant
1,3-dichlorobenzene	Moth repellant, fumigant, deodorant
1,4-dichlorobenzene	Moth repellant, fumigant, deodorant
2-(2-butoxyethoxy) ethyl acetate	
2,6-di-tert-butylphenol	Food preservative metabolite.
2,6-di-tert-butyl-benzoquinone	Food preservative metabolite.
2,6-dimethyl-naphthalene	Combustion product.
4-methylphenol	Nonionic detergent metabolite.
4-nonylphenol	Nonionic detergent metabolite.
5-methyl-1H-benzo-triazole	Antioxidant in antifreezes and deicers
Acetophenone	Flavor in beverages. Fragrance in tobacco.
Anthracene	Component of diesel
Benzaldehyde	Flavoring agent. Dye additive.
Cotinine	Primary nicotine metabolite
Diazinon	Insectide 40 percent nonagricultural use
Dieldrin	Insecticide

Benzo(a) pyrene	Regulated PAH. Combustion Product.
Bis(2-ethylhexyl)-adipate	Plasticizer.
Bis(2-ethylhexyl)-phthalate	Plasticizer.
Bis-phenol A	Common antioxidant. Flame retardant.
BHA	Antioxidant. Food preservative
BHT	Antioxidant. Food preservative
Caffeine	Beverages. Diuretic. Mobile & biodegradable.
Carbaryl	Insecticide for lawn & garden. Low persistence.
cis-chlordane	Insecticide degradation product.
Chlorpyrifos	Domestic pest 7 termite control (restricted 2001)
Cholesterol	Fecal indicator.
Codeine	Prescription drug.
Coprostanol	Fecal indicator.
OP1EO	Nonionic detergent metabolite
OP2EO	Nonionic detergent metabolite
Phenanthrene	Combustion product

Diethylphthalate	Plasticizer
N,N-diethyl-toluamide	Insect repellant (DEET).
17-β estradiol	Estrogen metabolite
Ethanol,2-butoxy, phosphate	
Fluoranthene	Coal tar & asphalt comp. Minor component of gasoline & diesel fuel. Combustion product.
Lindane	Insecticide
Methyl parathion	Insecticide.
Naphthalene	Major component of gasoline (10 %)
NP1EO	Nonionic detergent metabolite
NP2EO	Nonionic detergent metabolite

	(PAH)
Phenol	Disinfectant. Several manufacturing processes. Leachate.
Phthalic anhydride	
Pyrene	Component of coal tar & asphalt. Minor comp. of gasoline & diesel fuel. Combustion product
Stigmastanol	Plant sterol.
Tetrachloroethylene	Solvent. Degreaser. Veterinary anthelmintic.
Triclosan	Disinfectant.
Tri(2-chloroethyl)-phosphate	Plasticizer, flame retardant
Tris(dichlorisopropyl)- phosphate	Flame retardant
Tributyl phosphate	Antifoaming agent. Flame retardant.
Triphenyl phosphate	Flame retardant.

[NOTE: Parameters listed in Table 2 are not included in the City of Independence MS4 Permit monitoring program. This list of constituents that may become the subject of a USGS study is provided for informational purposes only.]

Continuous streamflow, rainfall, and water-quality data will be used to characterize the effects of urban stormwater on temporally variable and unstable constituents such as dissolved oxygen, turbidity, temperature, and specific conductance at both Little Blue River sites and the Spring Branch site. The continuous water-quality monitors will also provide data between water sample collections. Only specific conductance and temperature will be collected during the winter months to characterize the effects of road deicers. Provisional continuous data collected at the Highway 78 gage will be made available in real time at the USGS website.

Large concentrations of bacteria are very common in storm runoff (Schalk 1994) and bacterial contamination is of special interest in stream reaches designed to provide recreational opportunities. Water contaminated with human fecal bacteria (*Escherichia Coli (E. Coli))* may signal the presence of other pathogens, such as *Salmonella* spp., *Shigella* spp., hepatitus A virus, and Norwalk viruses (Dombek et al., 2000; Kinde et al., 1997). However, bacterial contamination of surface waters, especially in urban environments, may originate from a variety of sources including outflows from septic systems or from domesticated animals (Gannon and Busse, 1989; Young and Thackston, 1999; Wilkison and others 2002). New technologies that utilize DNA fingerprinting techniques (Dombek et al., 2000; Chapron et al., 2000) now allow for the sourcing of these bacteria. Source-typing is essential for characterizing the source hosts and to develop feasible and effective bacterial reduction strategies. Results from microbial source tracking analyses in nearby Kansas City indicate

approximately ¼ of E. coli bacteria in Brush Creek and Blue River are from nonhuman sources (Wilkison and others, 2002). Therefore, *E.Coli* isolates will be cultured and DNA sequencing patterns, or "fingerprints", will be developed from samples collected during selected base- and storm-flow events. Fingerprints isolated from water samples will then be matched against a recently developed "fingerprint library" using statistical algorithms designed to differentiate the original hosts of the bacteria including humans, dogs, cats, and geese. Differences in primary source hosts between sites and at different times will be used to associate *E. Coli* with various source hosts. Microbial source tracking samples will be collected in years two and four. These data will aid in the development of strategies to reduce human health risks from exposure to stream water."[3]

Section 3 – Data Reports

The City will submit monitoring data received from USGS in the Annual Reports. USGS data may be labeled as "PROVISIONAL" at the time of submission. If the City becomes aware that finalized USGS data differ from what was submitted in the Annual Report, the corrected data will be submitted in the next Annual Report. The following information from the USGS proposal describes USGS reports to be provided to the City.

"REPORTS AND PRODUCTS

All data collected as a part of this study will be provided to the City of Independence annually after the data have been quality assured and approved. In the last year of the study, a USGS-Series report will be prepared that compares data collected in this study with historic data collected in 1980 and 1992, characterizes bacterial sources, develops regression equations that can predict constituent loadings, and characterizes the water quality and ecological condition of receiving streams. This report will also identify any water-quality trends that may be revealed in the data."[4]

[3] Blevins, D.W., 2004, *Characterization of the Water Quality in Streams of Independence, Missouri*, draft U.S. Geological Survey proposal.

[4] Ibid.

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[5] Blevins, D.W., 2004, *Characterization of the Water Quality in Streams of Independence, Missouri*, draft U.S. Geological Survey proposal.

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